ABSTRACT

Title: Physiological characteristics in young elite sport climbers

Objectives: The aim of this work was to describe somatic and condition characteristics of young elite climbers.

Methods: Seventeen young female and male climbers in the age of 13 to 19 years, with climbing ability on UIAA scale from 8^{th} to 10^{th} degree were participated in this study. We detected informations about age, climbing experience, volume of climbing training and actual climbing performance. Furthermore, we measured height, weight and body composition and we used the tests for measuring strength and flexibility characteristics.

Results: Data of the strength and flexibility test were similar to previous studies. Result of relative grip strength was 0,75±0,04 for male and 0,68±0,08 for female. Result of the test bent-arm hang was 0,75±0,04 s for male and 0,68±0,08 s for female. Male climbers have shown very good endurance for finger hanging 78,2±13,8 s and female climbers have been still better 91,0±19,4 s. It has not confirmed any relationship between strength tests and the climbing ability($r = – 0,23$) in RP and ($r = –0,30$) in OS. But it has found hight relationship between flexibility test - foot-loading and the climbing ability in RP ($r = 0,80$) and in OS ($r = 0,78$).

Conclusions: In this study, we found that young climbers have similar somatic and condition characteristics to elite adult climbers.

Keywords: climbing, strength, flexibility, anthropometry